

THE
PSYCHOLOGICAL BULLETIN

PROGRESS IN CHILD AND EDUCATIONAL
PSYCHOLOGY.

BY PROFESSOR M. V. O'SHEA,

University of Wisconsin.

Productivity in these fields seems to be increasing at the present moment more rapidly in Germany than anywhere else. This is shown partly in the establishment of magazines devoted to the exploitation of new conceptions of child development in either its theoretical or its practical aspects, and partly in the printing of numerous monographs treating of some phase of child or educational psychology. With us there is a steady augmentation in the output of literature relating to the development and training of children, and the principles of education viewed from the psychological standpoint. The suggestion is frequently heard among us now that we are in need of at least two new magazines which should be devoted exclusively to child and educational psychology, and the application of the new views to the detailed processes of teaching.

It is worthy of remark that the greater part of the literature treating of child development and training is being produced in response to the demands of educational organizations of one sort or another. A considerable portion of it is being written with the express view of guiding teachers and parents in the instruction and management of children in and out of school. It will be apparent, then, that this literature is very largely of a 'practical' character. The writer of these notes, in running over the book and magazine literature on child development which has appeared since the special BULLETIN two years ago, has estimated that at least five-sixths of it was written directly for teachers, for parents, for instructors in religious schools, or for women's clubs. Those who are charged with the care and culture of children are to-day asking for help as they have never before

done in any age or country perhaps; and their call is being responded to by persons with the most diverse training and experience in respect to the problems which they undertake to solve. What many of them write is ethically and inspirationally good perhaps (though there are exceptions), but it is scientifically of little or no value. It is based upon sentiment, rather than upon exact knowledge of the native tendencies of the child, or his needs in order that he may attain adjustment to the world of men and things in the most effective way.

It is quite significant that those who are engaged in training the young, whether they be teachers or parents, seem to be much more interested in concrete data pertaining to child life than in logical analyses of ends, values, and processes in education. It would be next to impossible to induce a parents' organization, or a woman's club, or even a typical teachers' association, to study some of the late books on the principles of education, whereas great numbers of such societies everywhere are reading books that discuss the traits and needs of children in a direct, close-at-hand, familiar manner. This latter class of books, while in reality most of them are more or less psychological, yet they do not attempt broad and abstruse generalizations in respect to mental constitution or function. Some of them never refer to the formal processes of sensation, perception, reason, etc. Instead, they treat in a descriptive and objective way (and often in a superficial way) topics such as interests in childhood; the emotional development of children; the social nature of the young; truthfulness among children; obedience; the trend of the 'teens; adolescent love, etc. The analytic and systematic treatment of psychological processes does not seem strongly to attract persons with practical interests, even when 'applications' to the work of training are attempted. To the present writer this is a rather wholesome sign, since it is not easy to see how the formal exposition of psychological principles, which is so common in educational as well as in psychological texts, can be of special service to the art of teaching in any of its forms.

Last summer the writer of these lines listened to a psychologist deliver a few lectures in his field to mature teachers. He devoted the first half-hour of the course to a general criticism of the attempt to make psychology help teaching; and then he proceeded to spend the rest of one week in trying to instruct his auditors how to conduct their work effectively from the psychological standpoint. At the end of the week it was apparent that the lecturer had expressed a profound truth, so far as he was concerned, in the first part of his course. What he taught during the week was probably sound psychology—certainly

it seemed to be in accord with the views of at least one of the leading American psychologists, which was as much as could be expected in the present state of psychological thought. But at the end of the week his class seemed to feel that there was no application to their work which they could make of anything he had said to them. So far as they were concerned the whole thing was mainly verbal. The instructor spent his time expounding the so-called laws of sensation, perception, memory, reason, etc.; but what all he developed had to do with training a living human being, or teaching him cube root, say, or preventing him from whispering to his neighbors in the schoolroom, or encouraging him in doing so if this should be essential to his development, was not in the least apparent.

The present writer came away from those lectures feeling that the lecturer had not the remotest notion of how to apply psychological theory to any of the actual detailed problems of the typical classroom: and yet he was using up the time of teachers for one week, with the result probably that they were rather hindered than helped by his instruction. What was heretofore facile in their art, and more or less instinctive and automatic, would be likely now to become in some measure a matter of conscious effort, and this would be to the detriment of efficiency in practice. These teachers would be feeling that as a matter of conscience they ought in some manner to apply these statements they had written down about the mind, and their attention would in consequence be distracted from the concrete situations before them where their own experience would probably be of chief importance to them. It is a notorious fact that psychologists of the type of this lecturer are in some cases most ineffective teachers. Their familiarity with mental function does not extend to the manifestations thereof occurring under educational stimulation.

As we have not yet devised ways and means for the efficient investigation of the psychology of education considered in all its aspects, so many of us have not yet learned to teach what we do know so that it may affect practice in a vital way. The two things probably go together. If those who expound the psychological foundations of teaching could and would deal in a naturalistic way with actual educative processes as they must occur in the normal development of a human being, the results of such exposition could probably be taught to persons who are making preparation to teach so that their practical bearing would be apprehended. We may as well give up the notion that the study of formal analyses of adult mental function will be of substantial aid in the advancement either of educational theory or of effective practice.

The outlook is brighter in child than in educational psychology, partly because those who are interested in the former field have kept clear of a more or less formal method of procedure such as many of the educationists writing from the psychological standpoint have inherited from the static psychologists from whom they are descended. The students of childhood have come closer to the objects to be investigated than have the educationists of the conventional sort. Their work is more vital, less verbal, more to the point. With all the disadvantages arising from the lack of training of many of them, and from their exuberant enthusiasm and their crude methods, they still accomplish more of real worth than the highly-schooled but technical and formal educationists of the type indicated.

However, it is cause for rejoicing that the principles of education are being developed ever more largely from the standpoint of contemporary concrete and dynamic psychology, in which vital facts are of greater moment than logical system. But while appreciating the advances we are making in treating education as a natural science, still when we compare the little we have achieved with the vast amount left to be done it is not so easy to maintain an optimistic attitude. It would be unsafe to dogmatize in respect to the extent to which we have succeeded in elaborating educational principles according to scientific method, but yet one will run no risk in saying that only a small part of the contemporary literature of education, presented from the psychological standpoint, can be said to have permanent value. Many educational books (not all of them, happily) still treat in one small volume the entire subject of educational ends, values, and processes; and in consequence thereof the treatment is found to be general and more or less verbal. Special studies of merit have been made upon particular phases of education, as in the teaching of reading, for instance; but this sort of work, so much needed at present, has hardly yet got started. There are vast fields of educational theory and practice that have not yet been entered by a psychologist equal to the adventure.

How many competent psychologists, in good and regular standing at home or abroad, have shown any real knowledge of or intelligent interest in the problems of development and education? The fingers on both hands would probably suffice to enumerate them. It is true that a greater number than this have thrown out incidental remarks about 'child study' and teaching, but such observations have not shed much light on the problems in these fields. How many laboratories are there in the world devoted to the study of educational processes accord-

ing to psychological method, and properly equipped to undertake the work in a large and effective way, giving proper attention to normal as well as to sub-normal children? It is doubtful if there is in the whole world one such institution, equipped with proper appliances and well-trained men for psychological investigation, *and with children in every stage of educational development available for observation and experiment.* There are laboratories and competent men in a number of places at home and abroad, and children who are being utilized for experimental purposes in other places; but the writer does not know of any place where the two are brought together, constituting a single unified investigating institution; nor have we forgotten the Practice School at Jena, the laboratories at Crevalcore, Paris, Lyons, and Geneva, the Speyer School in New York, or the Elementary School in Chicago. Of course, educational psychology can be advanced more or less successfully in other ways; but it can never be developed as it should be until men make investigation their main business, and are provided with the essentials thereto, which include *pupils of every type who can be used for experimental purposes.*

THE PSYCHOLOGY OF SCHOOL PRACTICE.

BY PROFESSOR W. C. BAGLEY,

University of Illinois.

From the point of view of both educational theory and school practice, one of the most vital desiderata is an accurate investigation of specific methods of instruction and training. Next to the need for a scientific study of values, this is probably the field that presents the most imperative demands for immediate investigation. The record of the past two years includes a few important studies in this field, but, taken all in all, the surface has hardly been scratched as yet. Burnham,¹ whose careful and painstaking work always merits commendation, has reviewed the history of teaching spelling and the psychology of spelling, summarizing in a comprehensive way the numerous German investigations in this field. Witmer² has studied a special instance of poor spelling from the point of view of clinical psychology. Work of this sort upon extreme and abnormal cases can hardly fail to throw valuable light upon normal problems in the technique of teaching, and this instance does not prove an exception to the rule. The theory that good spelling is a Heaven-sent gift does not find favor in Witmer's eyes. He admits the possibility that some brains may be congenitally incapable of developing the normal visual functions of language, and that such cases, *if they exist*, constitute "a condition exactly analogous to one that is frequently found with respect to the function of hearing called musical audition." "It may be that perfectly normal children lack the spelling eye, as other children lack the musical ear, and that the former can be as little trained to spell correctly as the latter to play or sing; but if such children exist, I have yet to meet the first clear case. My experience leads me always to examine the eyesight of a bad speller who is otherwise free from mental or physical defect and who has enjoyed satisfactory school training. . . . I have found in such cases that the chronic bad spelling is invariably associated with some form of defective vision. I am not convinced, however, that bad spelling is necessarily caused by the eye defect."

¹W. H. Burnham, 'The Hygiene and Psychology of Spelling,' *Ped. Sem.*, XIII., pp. 474-501.

²L. Witmer, 'A Case of Chronic Bad Spelling—*Amnesia Visualis Verbalis*, Due to Arrest of Post-Natal Development,' *Psych. Clinic*, I., pp. 53-64.

It seems reasonable to assume that the more exact and permanent contributions to the psychology of specific methods of instruction must start with the rough results of accurate experience in the classroom, and, sifting the grain of these from the chaff, arrive at some tentative hypotheses which may then be subjected to more accurate experimental test. It is gratifying to note that there is a disposition on the part of the editors of the technical and scientific journals to admit to their columns this empirical type of material. Miss Copper-smith¹ has recently published an account of the methods of teaching English, together with specimen class-compositions. Meyers² has presented a valuable comparative analysis of the methods of moral training employed in American, English, French, and German schools. Gibbs³ has treated the pedagogy of geography in a clear and comprehensive manner, analyzing the various courses of study and methods of teaching, and summarizing the psychological studies of children's interests that bear upon the teaching of geography.

More indirectly related to the problem of educational technique is the type of investigation that is represented by Cleveland's study of the psychology of chess.⁴ Analytic work of this sort, based upon controlled introspection, must needs prove very valuable, especially if a number of such studies can be compared and the general principles induced.

The field of educational psychology that has perhaps been most thoroughly subjected to accurate investigation is that which relates to the functions of memory and to economy in learning. The American laboratories are doing some very important work in this field, although, thus far, the Germans appear to have the advantage. While the really practical contributions to the solution of educational problems are limited to a comparatively few suggestions regarding methods of memorizing, and especially the optimal periods for repetitive exercises, the technique of experimentation is being very rapidly refined and improved, and results of far-reaching educational significance cannot be far distant. Bergström's critical summary⁵ demonstrate the thorough-

¹Mary E. Coppersmith, 'Suggestions on the Teaching of English,' *Ped. Sem.*, XIII., pp. 461-473.

²G. E. Meyers, 'Moral Training in the School,' *Ped. Sem.*, XIII., pp. 409-460.

³D. Gibbs, 'The Pedagogy of Geography,' *Ped. Sem.*, XIV., pp. 39-100.

⁴A. A. Cleveland, 'Psychology of Chess and of Learning to Play It,' *Am. Journ. Psych.*, XVIII., pp. 269-308.

⁵J. A. Bergström, 'Effect of Changes in the Time Variables in Memorizing, together with Some Discussion of the Technique of Memory Investigation,' *Am. Journ. Psych.*, XVIII., pp. 206-238.

ness and exactness with which this important work is being prosecuted, and Kuhlmann¹ has recently presented in the BULLETIN an admirable report on the present status of the memory investigations, which indicates at once the gratifying progress that has already been made and the complicated and puzzling problems that still await solution.

Ordahl's study of rivalry² suggests another corner of the field of educational psychology that fairly bristles with problems. In reviewing the history of school incentives, Ordahl finds that the oldest means of persuasion is the rod, and that 'the next higher step was taken when rivalry is in part or in whole substituted for brute force.' The final stage, he tells us, is the present, in which many motives are appealed to, and rivalry is less a conscious factor 'but nevertheless inherent in the system.' In fact, notwithstanding the present tendency to discount emulative incentives, he holds that rivalry, 'as an elemental impulse in life,' cannot be neglected in education. "Instead of being looked upon as a means to discipline, it should be considered in the light of development, and given a chance to expand into its fullest and ripest stage—the desire for superiority." Rewards and prizes are endorsed, but they should be adapted to the period of development represented by the child, and the factor of self-emulation can and should be made more and more important as age advances. His plea for a careful experimental investigation of the relative merits of rivalry and coöperation at the various stages of the educational process will be heartily echoed by all who have become somewhat weary of the contemporary efforts to solve this problem once and for all time by *a priori* arguments.

The controversy over 'formal discipline' goes merrily on, but the strife is now within the camp of the psychologists and there is a gratifying absence of the unsubstantiated dogmatizing that once characterized the discussion. The reaction which was initiated against the older doctrine of formal discipline by the Herbartians, and which reached its height soon after the publication of the Thorndike-Woodworth experiments, seems now to have given place to a counter-reaction which bids fair to rehabilitate the doctrine—albeit with so many modifications that its older adherents will probably not recognize it as the same thing. Following in the wake of German experiments on the transfer of training in the field of memory, Winch, in England,

¹ F. Kuhlmann: 'The Present Status of Memory Investigation,' PSYCH. BULLETIN, V., pp. 286-293.

² G. Ordahl, 'Rivalry: Its Genetic Development and Pedagogy,' *Ped. Sem.*, XV., pp. 492-549.

has recently undertaken a series of investigations¹ which issue in results very similar to those of Ebert and Meumann. Winch tested pupils ranging in age from eleven to fifteen years and averaging thirteen years. Instead of testing the same group before and after training, and so determining the influence of the training, Winch introduced a new method of making this determination. He divided the pupils into two groups of approximately equal ability in memory, and containing the same number of pupils. Both groups were tested as to their ability to memorize a passage from an historical reading book, this ability being measured by the amount that could be reproduced immediately after fifteen minutes of study. Members of the first group were trained during the next week or two in memorizing poetry, the members of the second group being occupied at the same time with problems in arithmetic. After the period of training was completed the two groups were brought together and subjected to a second test in memorizing a selection from an historical reader. It was found that the first group, who had received the training in memorizing poetry, did much better in this final test than the second group, who had missed this training. The author comes to the following conclusion: "Improvement gained by practice in memorizing one subject is transferred to memory work in other subjects whose nature is certainly diverse from that in which the improvement was gained."

It will be noted, however, that the nature of the subject-matter is not so diverse as to exclude entirely the operation of 'identical' elements, nor is the difference between the two groups in memory capacity at the close of the test so great that one needs to assume a 'general' function of memory to explain the improvement. The factors emphasized by both Müller and Woodworth in criticism of the Ebert-Meumann experiments apply with even greater force to the conclusions of Winch.

Coover and Angell² have attempted (and with some measure of success) to select for experimentation a set of capacities in which the troublesome factor of identical elements could be much more thoroughly eliminated than in either the Ebert-Meumann or the Winch tests. Their first series of experiments was undertaken to determine the influence of training in auditory discrimination upon the capacity to discriminate brightness differences. Out of four subjects trained in

¹W. H. Winch, 'The Transfer of Improvement in Memory in School Children,' *Brit. Journ. Psych.*, II., Part 3, pp. 284-293.

²J. E. Coover and F. Angell, 'General Practice Effect of Special Exercise,' *Am. Journ. Psych.*, XVIII., pp. 329-340.

the discrimination of sounds, three showed that some of this training could be carried over to the discrimination of brightness. A second series was undertaken to determine what influence training in sorting cards would have upon ability to react properly upon a typewriter to certain letters which were exposed to the subject's view. It was found that the time of the typewriter-reaction was decreased by the training in sorting cards, but that the errors were increased. The authors explain the transfer of training in the first series as a divesting of the essential process of its unessential factors, a freeing of judgments from illusions, and the attaining of a more uniform state of attention which is less than the maximum. The more economic adaptation of attention is especially emphasized. The improvement discovered in the second series is explained by the authors as due (1) to the formation of a habit of reacting directly to a stimulus without useless acoustic and motor accompaniments, which results (2) in an equitable distribution of attention to the various possible reactions so as to be about equally prepared for all; and (3) the consequent power of concentrating the attention throughout the whole series without distraction.

Just how far 'identical elements' are excluded in these experiments, it is difficult to determine. *Objectively* the conditions seem clearly different, but *subjectively* there still remain all sorts of possibilities. Wherever something in a new situation gives mind a 'cue' to a reaction that has been trained in an apparently different situation, it would seem plausible to believe that the adjustment to the new situation will be better because of the older training. Obviously the 'cue' may operate on the plane of habit, in which case, of course, the situation is in no significant way different from that in which the training has been acquired. But it is not cases of this type that cause the trouble in the formal-discipline controversy. It is rather those cases in which the training shows a stubborn tendency *not* to spread. Here the saving factor is the conscious factor; unless one is conscious of an identity, there is no guarantee that special training in one field will be carried over into another field.

This solution of the problem is strongly suggested by Ruediger's tests on the transfer of training in neatness through a conscious process. Some earlier experiments had indicated that children trained in habits of neatness and accuracy in arithmetic did not transfer this training to written work in language and spelling under conditions which eliminated, as far as possible, a conscious recognition of identity in the different situations. In fact, the papers in the latter subjects grew worse

as the arithmetic papers improved. Ruediger¹ repeated the experiments, again with a particular emphasis upon neatness in one school subject. In the remaining subjects nothing was said about neatness, but, during the exercises in which the specific training was undertaken, it was attempted, by various talks and discussions, to develop an *ideal* of neatness among the pupils. The results indicated very clearly a marked transfer of training to the unemphasized phases of the school work, although the gain was, naturally, greatest in the subject emphasized. The significant feature of these tests lies in the fact that the children tested by Ruediger were seventh-grade pupils, while the children subjected to the earlier tests in which no transfer was noted were third-grade pupils. It seems to be a reasonable inference that the older children generalized their experience much more readily, and detected in the various situations identical elements or 'cues' which the younger children missed entirely. That the addition of the emotional element will insure a greater likelihood of the 'cues' being detected in seemingly dissimilar situations can hardly be doubted.

If these conclusions are correct, the problem, from the practical point of view, is to make thoroughly conscious to the pupil or the student the virtues of the method which is employed and from which it is hoped that the 'discipline' will emanate. The view that, in some intangible fashion, different mental faculties will be trained into general efficiency is no longer tenable. The miracle may occur — and it may not. The closest approximation that we can make to an assurance of its occurrence is to work through the higher levels of consciousness — to fortify in every way an appreciation of method and not to be satisfied with a mere mechanical mastery of method. What this means in terms of teaching, Ruediger very clearly indicates.

¹ W. C. Ruediger, 'The Indirect Improvement of Mental Function Through Ideals,' *Educational Rev.*, XXXVI., pp. 364-371.

RECENT CHILD AND EDUCATIONAL PSYCHOLOGY.

I. IN GERMANY.

In a recent German periodical¹ Professor Max Meyer, of the University of Missouri, contrasts the lists of lecture courses in the various fields of applied psychology in Germany² with the activity in similar lines in this country. Of the 22 courses listed for Germany, only five deal directly with educational psychology.³ Meyer estimates that at least three times as many courses of the same caliber were given in this country at the same time, to say nothing of the dozens of courses of a more elementary character given in American colleges, for which, he says — apparently overlooking the courses in the *Lehrerseminare* — no exact equivalent can be found in Germany.

From this comparison one might gain the impression that American teachers are better versed in educational psychology than are their German colleagues, but nothing, it seems to us, could be farther from the truth. The typical German teacher is far better trained in all phases of professional preparation than is the typical American teacher. In especial, the numerous teachers' associations with their organs of publication and their lecture courses bring it about that the latest contributions of expert investigators are in Germany quickly disseminated and assimilated by the body of teachers:⁴ indeed, for the

¹ *Zeits. f. angewandte Psych.*, I., 1908, 470-2.

² *Ibid.*, p. 170.

³ The work of Uphues at Halle, Stern at Breslau, Messer at Giessen, Meumann at Münster, Vogt at Göttingen, to which might be added the summer courses given by Brahn at Leipzig, and the numerous extension courses given especially by Stern and Meumann before societies of teachers.

⁴ The *Allgemeiner deutscher Verein f. Kinderforschung* under Trüper's direction at Jena has a membership of 150 and maintains the *Zeits. f. Kinderforschung*; the *Verein f. Kinderpsychologie* under Kemsies at Berlin has a membership of 100 and is responsible for the valuable *Zeits. f. päd. Psych.*, *Path. u. Hyg.*, edited by Kemsies and Hirschlaß. There are also important child-study clubs at Mannheim and Dresden, while educational psychology is represented at the meetings of the *Gesellschaft f. exp. Psych.*, founded in 1904, and now under the leadership of G. E. Müller, and of the *Gesellschaft f. psych. Forschung*, meeting one section at Munich under Lipps and another at Berlin under Moll. In addition, an important *Congress f. Kinderforschung u. Jugendfürsorge* met for the first time in Berlin in 1906 under the leadership of Trüper and will meet at regular intervals in the future.

As a typical instance of this sort of activity in Germany a few words might

German teacher to fail to keep in touch with the advance of educational psychology would be considered suicidal. One may look in vain in this country for any such evidence of a teaching profession that is alive to the most recent scientific advances.

Again, in comparison with Germany we have in this country no such wealth of publications which deal with the direct or indirect applications of psychology to education: at least it would be difficult to find a parallel in our literature for such varied periodicals as the *Zeits. f. exp. Pädagogik*, the *Zeits. f. päd. Psych.*, the *Päd.-psychologische Studien*, Stern's *Beiträge zur Psych. d. Aussage*, or his *Zeits. f. angewandte Psych.*, Kraepelin's *Psych. Arbeiten*, Rein's *Zeits. f. Phil. u. Päd.*, and the several series of monographs edited by Ziehen and Ziegler, Meumann, Martinak, Ufer, Trüper, Rein, and Mann, not to mention the work of the Austrians.¹

Yet again, there exists in Germany a body of specialists, much larger than in this country, who are concerned with the psycho-educational problems of school hygiene and of the education of defectives and the feeble-minded; these men keep well filled the pages of *Die Kinderfehler*, the *Zeits. f. Schulgesundheitspflege*, the *Zeits. f. päd. Psych.*, the *Intern. Archiv f. Schulhygiene*, *Die Hilfsschule*, and other periodicals, so that comparison with the limited number of the contributions to such magazines as *The Psychological Clinic*, *School Hygiene*, etc., is hardly needed to convince one that in these fields American are easily outnumbered by German investigators.

A concrete example of the manner in which the knowledge of the psychological expert is in Germany conveyed to the teacher is supplied in what is unquestionably the most important book that has appeared in educational psychology during the last two years, — Meumann's *Vorlesungen zur Einführung in die exp. Pädagogik u. ihre psychol. Grundlagen*, Leipzig, 1907. These two volumes of nearly a thousand pages, which are dedicated to the teachers' associations of

be said of the Leipzig *Lehrerverein*: this voluntary association of principals, school inspectors, and teachers, has purchased its own building of eight rooms (two lecture rooms, five rooms for experimental work and a library) at a cost of some \$3,000 and maintains an *Institut f. exp. Päd. u. Psych.*, whose winter and vacation courses are filled to the membership limit, and whose work under Brahn's direction has aroused the active interest of Wundt, Wirth, and other Leipzig professors.

¹ We are pleased to record the prospective appearance in this country of a Journal of Educational Psychology, which will, it is believed, furnish a valuable channel for the publication of the results of experimental investigation in this and allied fields.

Königsberg, Frankfort and Bremen, represent a series of 18 lectures. In conjunction with his activity in editing such important periodicals as the *Zeits. f. exp. Päd.*¹ (beginning 1905) and the *Päd. Monographien*, and with his personal contributions to the experimental literature, these volumes stamp Meumann as the most prominent educational psychologist in Germany to-day. For these reasons we feel that a satisfactory account of recent German educational psychology (though not strictly limited to the last two years) may be secured by a presentation that is largely drawn from Meumann's volumes.

Scientific pedagogy employs in the main two methods, the psychological — *i. e.*, the familiar laboratory methods — and the pedagogical or didactic — *i. e.*, the experimental and statistical examination of the value of different methods of teaching. A fundamental principle of this movement is the recognition that the solution of all pedagogical problems must be made from the point of view of the child rather than from that of the adult.

We may first sketch a few of the results that have been obtained by the psychological method.

Important contributions to our knowledge of normal physical and mental development have been made by Dr. Lucy Ernst, in coöperation with Meumann (growth tables for 175 boys and 175 girls, aged 8 to 15), and by Drs. Engelsperger and Ziegler. The correlation of physical and mental capacity has been investigated by these writers and by Rietz in Berlin, Bayerthal in Worms, Eyerich and Löwenfeld in Wiesbaden, and others. The results confirm the existence of periodic phases of accelerated and retarded development, extend our knowledge of these phases, and indicate a general correlation between intellectual ability and certain characteristic indices of physical growth, particularly head-circumference.

The work of David in Warsaw and of later investigators, especially of Matiegka, Ranke and Treitel, has demonstrated the existence of a similar periodicity in mental development, and emphasized the principle that the distribution of mental traits in the child is characteristically different from that in the adult.

Association and memory have received attention in Germany, particularly in connection with the study of the learning process, of economical memorization, and of the development of memory in

¹Originally edited by W. A. Lay and Meumann under the title *Die exp. Pädagogik*. It may be of interest to call attention to the episode which, with the appearance of the fourth volume in 1907, led to the withdrawal of Lay on account, primarily, of the charges of Cordsen, who accused Lay of plagiarism in his *Exp. Didaktik* (see *Zeits. f. Psych.*, XLIII., 290 ff.).

school children. It is impossible to more than suggest the conclusions which flow from the work of Lobsien, Bernstein, Bogdanoff, Brahn, Ebert and Meumann, Pentschew, Pohlmann, Wessely, Winteler and others; thus it has been shown that memory develops unevenly; that retention is relatively good during the 10th to the 12th year, and relatively poor during the 14th to the 16th year, that emotional memory begins in the main at puberty, that children learn more slowly, demand more repetition, but forget less rapidly than adults, that many children leave school at a period when assimilative capacity is at its height, that the order of attainment of functional efficiency in memorizing differs with different mental contents, that memory for abstract verbal items develops side by side with memory for numbers, etc.

The study of specific capacities and talents and their utilization in mental development (*Begabungslehre*) is not so well advanced, and is occupied as yet mainly with the discussion of theoretical hypotheses and with methodological problems.

Though relatively little has been done with affective and volitional life, German investigators have not neglected the higher mental processes; imagination, linguistic development, esthetic development, and even ethical and religious development, are being studied by the experimental method.

The conditions of mental fatigue have been systematically investigated since the work of Bürgerstein in 1891 — witness the contributions of Laser, Friedrich, Kraepelin, Höffner, Ebbinghaus, and Ritter. The unreliability of Griesbach's esthesiometric test seems now to have been demonstrated to the satisfaction of all investigators. A large amount of factual material has been accumulated with regard to the effect upon fatigue of such conditioning factors as age, sex, rest-pauses, physical effort, mental effort (as in the various school studies), alcoholic beverages, etc.

The chief problem of the pedagogical method is the analysis of the type of mental activity that is demanded by the various school studies. In this field, to which Meumann gives the name experimental didactics, attention has been directed for the most part to observation-lessons (*Anschaunungsunterricht*), reading, writing, spelling, number-work, and drawing; the work in the higher grades has yet to be studied systematically by the experimental method. The work of Goebelbecker, F. Schumann, and Zeitler has advanced our knowledge of the manner in which children learn to read, and bids fair to suggest important pedagogical principles; similar statements may be made of the study of handwriting. From the investi-

gations of Lay, Lobsien, and especially of Goebelbecker, supplemented by the observation of pathological cases, Meumann induces as a rule for the best method of learning to spell correctly: combine the sight of the new word with analytical copying of it, plus at least a whispered pronunciation of its constituent elements. The psychology of number is not yet so well advanced, but mention should be made of Lobsien's examination of the correlation between memory for numerals and arithmetical ability, and of Ranschburg's promising inquiry, the first article of which appears as this is written. In drawing, the earlier custom of simply collecting examples of children's drawings and culling from these a few generalizations has been superseded by more careful analytical and experimental work, notably by Meumann and Dr. Albién in recent numbers of the *Zeits. f. exp. Päd.*

Mention may be made here of the extensive investigation in Germany of the psychology of report or testimony (*Aussage*), due particularly to the zeal and industry of Stern. The investigations of Borst on the educability of the report, of Lipmann on the use of suggestive questions, and of Wolodkewitsch and others on the classification of ideational types in the report, have shown important pedagogical bearings. Here, again, is a province of applied psychology, which, save for some work by Münsterberg, has not been exploited in the United States.

CORNELL UNIVERSITY.

G. M. WHIPPLE,
L. R. GEISSLER.

II. IN FRANCE.¹

The publications on educational psychology and child study that have appeared in France and countries where the French language prevails, during the last three years, fall naturally into three groups: (1) books, (2) magazine articles, and (3) publications of laboratories and societies.

I. At the present time there are four principal centers for laboratory research in these subjects, two in France, one in Switzerland, and one in Belgium. The two laboratories in France are found in Paris and Lyons. The former, which was first installed in the laboratory of physiological psychology at the Sorbonne, has since become an annex of that laboratory, and is now housed in one of the public primary schools of the city of Paris. Its publications ordinarily appear either in the *Bulletin de la Société de Psychologie de l'Enfant*, or in the *Année Psychologique*. It includes a study of both normal and

¹Translated by Professor F. E. Farrington, University of Texas.

abnormal children, but its investigations are primarily in the field of educational psychology. The laboratory at Lyons was established at the instigation of Père Beauvisage for the purpose of studying the local school children unsatisfactory in conduct or attainments, with the idea of discovering those pupils who might profitably be segregated in special classes.

The laboratory at Brussels finds its material in the institution for backward children of Dr. Decroly, and in the special school for abnormal children under the direction of M. Nyns.¹ The results are ordinarily published in the *Bulletin de la Société protectrice de l'Enfance anormale*. This is a center for medical and pedagogical observations rather than a laboratory for paidology. The paidological laboratory of M. Schuyten, which has been established by the municipality of Antwerp, where the Flemish language prevails, falls outside the scope of these notes.

At Geneva, the situation resembles that at Paris, for the pedagogical laboratory is joined to the psychological laboratory, and is under the direction of Dr. Claparède. Three years ago, a pedagogical seminary was added to this. The publications of this laboratory appear in the *Archives de Psychologie* of Claparède and Flournoy.

II. Practically up to the present time, magazine articles on these subjects have appeared only sporadically in France. Aside from the bulletins of the societies, some of the reviews devoted to psychology or pedagogy have from time to time published studies on the child and on educational psychology, as for example, the *Revue Philosophique*, *Revue Pédagogique*, and others. But within the last few years, only a single magazine has devoted itself exclusively to these questions, the *Educateur Moderne*, founded in 1906 by Dr. Jean Philippe and Dr. G. Paul-Boncour. This magazine was intended to afford a medium of expression for studies of physical education, school hygiene, biology and pedagogy in their mutual relations, and of abnormal children. The following are the titles of some of the more important leading articles that have appeared in this journal: 'The School Book,' 'Untruthful Children,' 'The Physical Education of Women and Children in Japan,' 'For and Against the Vertical Script,' 'Happel's Method of Gymnastics,' 'Paidology,' 'Language Difficulties of Abnormal Children,' 'The Educational Processes in Classes of Abnormal Children,' 'Instruction in Swimming in the Elementary School.' In spite of the measure of success attained, the editors have abandoned the

¹ For an account of this school of M. Nyns, see the *Proceedings of the National Education Association*, 1908, pp. 378-379. (Tr.)

publication of this magazine, which was primarily interested in pedagogical questions. Consequently, at the present time, neither in France, nor in the countries where French is spoken is there any publication which corresponds to the *Pedagogical Seminary*, or the *Educational Review*.

The societies organized to investigate these questions ordinarily work in connection with some laboratory. The two most important in France are the Society for the Study of Child Psychology, founded in 1900 by M. F. Buisson, and the Association of Doctors and Families for Improving the Physical and Intellectual Hygiene of the School, founded in 1902 by Dr. A. Mathieu. The former organization concerns itself with the psychology of the school. The larger part of the membership is made up of teachers, and the active workers in the society devote themselves particularly to investigating the means for estimating the mental ability of children, the best pedagogical processes to be employed with them, the method of diagnosing mental anomalies, and the like. The second society is more particularly interested in questions of school hygiene. It has devised a school record book with medico-pedagogical notes, very similar to that which Dr. Roux had adopted for use in the public schools of Nice. The society is likewise interested in the revision of the overburdened school program, in the measurement of fatigue among school children, in school furniture, and kindred topics.

The Society for the Protection of Abnormal Children was founded in 1902 by a group of Belgian physicians and educators, among whom we find the names of Dr. Demoor, Dr. Decroly, M. G. Rouma and others. This organization is interested more specifically in the protection and education of abnormal children, and it seeks to unify the forces working toward this end. Unfortunately these investigations are still diffuse and poorly organized, and the members of the group have published little. Better results are looked for when the educational bureau which the municipality of Brussels has organized under the direction of M. Nyns for the purpose of collecting all the available information that bears upon the education of abnormal children is in working order.

Finally, in connection with the organizations that devote themselves to the study of abnormal children, passing mention must be made of the medico-pedagogical clinic which was started in 1901 by Dr. J. Philippe and Dr. P. Boncour. At this clinic abnormal school children as well as backward or vicious children are examined both from the medical and from the educational point of view.

III. The books on these subjects published since 1906 may be divided into three categories: general treatises, treatises on educational psychology, and the investigations of abnormal children.

(1) *General Treatises*. — Among these, the following are especially worthy of mention: Leroy, *Vers l'éducation nouvelle*; Van Overbergh, *La réforme de l'enseignement*; Ch. V. Langlois, *L'éducation aux Etats-Unis*; P. Crouzet, *Maîtres et parents*; Dériès, *Comment élever la Démocratie*; Mocquillan, *L'art de faire un homme*; Braunschwig, *L'art et l'enfant*; F. Allengry, *Psychologie et Pédagogie*; James, *Causeries pédagogiques* (the French translation of *Talks to Teachers*); Dufresne, *Nouveau cours de pédagogie*; Lalande, *Précis raisonné de morale pratique*; P. E. Thomas, *L'éducation dans la famille*.

In spite of the diverse environments from which these books emanate, they all show a community of interest. They emphasize the necessity of bringing about a closer relationship between the school and the home, of interesting the parents in the work their children are doing at school, and in making the latter educational as well as instructional centers. One and all demand that the school should no longer restrict its instruction to the mere subject matter of one or more programs, but that first of all it should teach its children to be upright men and good citizens. At the same time these educators demand a better adjustment of the curriculum so as to fit the social and economic conditions of the life in which the child must live; that the instruction should appeal less to the memory and more to the intelligence; in fine, that it should strive rather to develop the mind than to fill the memory. Furthermore, the school should introduce the child to artistic things; it should form his taste through contact with the masterpieces of ancient and modern times; and all education, whether in the school or in the family, should reveal an intellectual and moral unity such as that outlined by M. Thomas in his book on *Education dans la famille*.

(2) *The Relation of Psychology and Education*. — The greater part of the above-mentioned collections or bulletins frequently refer to investigations of these subjects. Among the monographs that have appeared during the last few years, the following are deserving of mention: Dr. Chaumet, *La croissance des enfants à Paris*; Dr. Javal, *Psychologie de la lecture et de l'écriture*; Dr. Claparède, *Psychologie de l'enfant et pédagogie expérimentale*; A. Maire, *Technique du livre*; G. Demeny, *Mécanisme et éducation des mouvements*; Irving Hancock, *L'éducation physique au Japon* (Ferrus and

Pesseaud, tr.) ; Dr. Joland, *L'hygiène oculaire à l'école* ; Compayré, *Psychologie de l'adolescence* ; J. de Walleus, *La science gymnastique* ; Widsemski, *Essai d'anthropologie pédagogique* ; Dr. de Fleury, *Nos enfants au collège* ; Dr. J. Philippe, *Psychologie des écoliers* ; R. Mercier, *Conférences d'hygiène et de puericulture*.

The outcome of all these investigations is that the old pedagogy, based upon personal impressions of doubtful accuracy, though more or less helped out by practical experience and a knowledge of the temperament of the child, is now seeking its support in more accurate and more scientific data. In order to justify its processes of teaching and its means of discipline, it is striving to find certain objective indications analogous to those known to the medical men as 'symptoms.' Thus it follows that the majority of those experts whose advice is sought for improving the ordinary teaching processes belong either to the medical profession or to the psycho-physiologists whose vocational training has accustomed them to seek the objective side of our mental states.

The new pedagogy, then, has first sought to discover the means of directing the physical growth of school children. France is paying much attention to improving the hygienic conditions, to the questions of proper food and school furniture ; in a word, to everything that affects the bodily development of the pupil. Children's diseases in the school, and the means of preventing them, or at least of minimizing their physiological and psychical consequences, are the objects of special consideration. The teachers are likewise taking a much greater interest than heretofore in the comparative value of the methods of physical education. The controversy among the various schools of physical training has become keen. Three systems are in vogue : the antiquated system of Amoros, which gradually became a method of mere feats of strength ; the old Swedish system of Ling, which possesses some good points, but at the same time persists in retaining certain movements that have been condemned by physiology and medicine alike ; and finally the eclectic system, which, throwing aside tradition and recognizing no authority other than that of science itself, declares that it is ready to borrow the best from every system. This eclectic system is gaining ground daily.

Parallel with the physiological development, contemporary pedagogy is studying the intellectual development of the pupil. If one wishes to guide the mental growth of the child more accurately and more confidently than heretofore, is it not important to understand how the various faculties develop, and through what stages, for exam-

ple, the memory, the imagination, the ability to think in abstract terms, pass in the process of their refinement? Teachers, especially those in the primary school system, have begun of late to lay hold upon these ideas and to apply them in their work. This new information has been widely disseminated, so that there is no doubt that intelligent teachers have realized considerable progress.

(3) The facts about abnormal pupils found no place in the old treatises on pedagogy; only physicians concerned themselves with such children; even they studied only those who seemed sufficiently ill to have need of constant care. Now numerous articles are appearing every year on the education, the medical examination, and the medico-pedagogical treatment of such children. Among the most important of these may be mentioned the publications of Dr. Bourneville, *Le traitement médico-pédagogique de l'idiotie*, and *Les enfants anormaux au point de vue intellectuel et moral*; the new edition of Séguin's *Le traitement moral et l'éducation des idiots et des arriérés*; G. Rouma, *Les troubles de la parole chez les écoliers*; Dr. J. Philippe and Dr. G. Paul-Boncour, *Les anomalies mentales chez les écoliers*; Dr. Coutet, *La régénération des familles et des races tarées*; L. Proal, *Le suicide chez les enfants*; Colliard, *L'éducation protectrice en Prusse*; Dr. Cruchet, *Les arriérés scolaires*; Dr. Chazal, *Les anormaux psychiques*.

Running through all these publications one notes the constant effort to reconstruct the nature and the intelligence of these backward and abnormal children by first curing them of their physical ills. With rare exceptions, all teachers are to-day inclined to give physicians the principal rôle in this medico-pedagogical treatment, especially at the outset. It is furthermore absolutely essential, as is pointed out in *Les anomalies mentales chez les écoliers*, to adapt the pedagogical processes to the mentality of each child, instead of attempting to bend his mind in accordance with school programs and processes. It is necessary, therefore, to individualize his education.

For a more general discussion of the trend of thought in the various fields that have just been touched upon, the reader is referred to the *Revue Philosophique* for 1906 and 1907, M. Blum, *Le mouvement pédologique et pédagogique en 1906*, and Dr. M. Bernard-Leroy, *La psychologie infantile en 1907*; also in the *Revue Pédagogique*, 1906 and 1907, M. Chabot, *Les revues des livres de pédagogie*.

In conclusion, it is worth while to note the two great tendencies followed at the present time in France by those who devote themselves to investigation along the line of scientific pedagogy. All aim to do

scientific work, but all do not follow the same method. On the one hand, some believe that the documents necessary for such scientific work may be collected by wholesale investigations, by means of questionnaires, by experiments carried on *en bloc* on a whole class at a time—the method that has been followed for several years by Stanley Hall. Others, on the contrary, do not believe that these investigations lead to any positive generalizations, to any fixed pedagogical laws, unless there have first been collected a very large number of observations made directly upon children studied separately and as individuals. In other words, it is by the individual monograph method and not the questionnaire method that they hope to discover the laws of the growth of the child, of the development of his faculties, and the means the school can employ to direct or correct this development. Up to the present time, this second group of investigators has contributed most to the success of these researches.

JEAN PHILIPPE.

THE SORBONNE.

III. IN ENGLAND.

For some reason, England has always been singularly unwilling to apply inductive and quantitative methods to the study of psychological processes. This is probably because in an old country, strongly organized on lines of special privilege for classes, any inquiry into the fundamental reasons for action is sure to disturb vested interests on every side. As a consequence of this attitude of mind, experimental psychology and sociology have never had a cordial reception in the English universities, nor among the people in general. Since the disastrous experiences of the South African War, however, the leaders of English thought have realized that the British Empire can no longer be trusted to 'muddle through' the difficult problems of modern civilization, and various methods have been set on foot to estimate the national efficiency and to provide for national defects. These investigations have taken a form quite different from similar studies in the United States.

In this attempt to understand herself, England has depended mainly upon royal commissions of inquiry and international congresses. The most important of these commissions was appointed in 1904, and was called the Inter-Departmental Committee on Physical Deterioration. The committee recommends a thorough reorganization of the various agencies and societies at present working for improved conditions, and lays especial emphasis upon the necessity for

a comprehensive census of the English people along the lines of physical development. It feels that this could be begun by examining and recording measurements of the children in the state schools, and of candidates for the army and for civil service appointments. This report stirred the British mind to its foundations, and another royal commission was appointed to work over the whole problem of providing for dependent classes. This commission has been working for nearly four years, and its report is not yet ready.

Another royal commission was appointed to consider and report on 'the existing methods of dealing with idiots and epileptics, and with imbecile, feeble-minded, or defective persons not certified under the lunacy laws.' This commission sent an important committee to study conditions in the United States, and it has just brought in an elaborate report in eight volumes which includes an enormous quantity of new material which is yet to be summarized.

During the past year three extremely important international congresses have been held in London. The first of these met from August 5 to August 10, 1907, and dealt with School Hygiene. Several quantitative studies were brought before the sections, and an important volume of proceedings has been published by the Sanitary Institute.

The second congress dealt with the Advancement of Drawing and Art Teaching, and papers were presented by distinguished men and women from all parts of the world. It has also published an important volume of proceedings. In connection with this congress the American representatives prepared a handsome volume of papers called *Art Education in the Public Schools of the United States*. This volume was edited by Dr. J. P. Haney, of New York, and contains an extended chapter on child study in connection with drawing.

The third international congress was probably more important than either of the others. It was called the First International Moral Education Congress, and held its sessions from September 25 to 29, 1908. Four hundred foreign delegates came together, and the papers represented every possible aspect of moral education. The volumes of proceedings represent the most important contribution so far made in this difficult field of education. Closely allied to the work of this congress is the work of an organization established in London about three years ago for the investigation of the whole problem of moral education. This organization was international in its scope, and the results of its studies and investigations in all parts of the world have recently been issued in two volumes edited by Michael E. Sadler.

As a result of the work in child study presented in the Inter-

national Educational Congress in Chicago in 1893, the British Child Study Association was formed. It developed branches in the principal centers of the British Islands and directed its work especially to investigating the practical needs of the school and the home. It published a journal called *The Paidologist*, which went through nine volumes. There was also in London at the same time a society, largely composed of physicians, called the Childhood Society, and while its aims were more directly scientific, the work of the two societies was essentially the same. At the close of 1907 the two societies were amalgamated under the name of the Child Study Society. It planned a new journal to be called *Child Study*, the Journal of the Child Study Society, to be published four times annually. The meetings of the new society have been well attended, and some of the papers have been the result of careful investigation in new fields. Notable among these is the paper by Miss Alice Ravenhill on the 'Sleep of School Children,' which was based on a careful study of more than six thousand cases.

In England, as in America, much of the best work that has been done in the study of children during the last few years has appeared in connection with the reports of the medical inspection of schools. In England the reports of Dr. James Kerr, Medical Officer for London, which appear each year, are filled with a wealth of information concerning the physical development of children, and many of his investigations throw strong light on mental development.

On the whole, public interest in psychological questions in England is steadily growing; but it is a practical interest, forced home on the people by a disorganized school system, by industrial stagnation and an army of unemployed people, by the agitation for woman's suffrage, and by the unrest in India. While social, political, industrial and educational questions are so pressing it is difficult for able leaders to settle down to the study of the elementary facts of mental and social life.

EARL BARNES.

PHILADELPHIA.

IV. IN ITALIAN, SPANISH, ETC.

ITALIAN.

The six numbers of the fourth volume (1908) of the *Rivista di Psicologia Applicata* (Bologna) edited by G. Cesare Ferrari contain several articles of interest here. A. Pellottieri's 'L'istinto di appropriazione e le idee sulla proprietà nei bambini' (pp. 31-52) is based

partly on observation of his own child. In the first years of life, the child 'recognizes its own identity by seeing itself surrounded by a not very variable complex of things with which it finds itself always in the same relations.' In this semi-consciousness interest fuses with appropriation. First and foremost is the appropriation of food and the suggestion of the 'sense of eating,' then those of the other senses. Children love full and complete possession of their things. Construction and destruction of play things are assertions of ownership, conditioning of which by parental tutelage is a great source of grief. More interesting than the possession of toys or of money (later on) is the possession of the child by itself (its self-plays) and its possession of parents and others. The love of acquisition and the jurisprudence of childhood deserve special treatment, and many parallels with the history of the race suggest themselves as the idea of the property of others dawns in the child's mind.

In another article, 'Il bisogno di possedere e la personalità' (pp. 517-529), the same author discusses ownership in relation to personality, pointing out the value of economic independence in developing the true sense of self. The ideal social formula should be to assure to every one the means of freely exploiting his own individual and social activity for the benefit of himself and his fellows.

G. Pennazza's note on 'La scrittura-disegno e il disegno-scrittura' (pp. 86-89) discusses briefly the attempt by an alphabetic idiot boy to copy a sentence written on a slate. When the slate was turned over in order to continue the writing on the other side, the boy stopped copying the words and drew pictures to illustrate the story as he had heard or imagined it. Evidently it is possible for feeble-minded children even to learn to read and write (*i. e.*, draw) to a certain extent without knowing the letters of the alphabet, syllabification, etc. This 'writing-drawing' (and 'drawing-writing') lies close to some of the phenomena of expression found among primitive peoples. G. Pennazza is also author of *Piccolo mondo primitivo* (Bologna, 1909), treating of defectives.

Professor U. Loreta, in his 'Aparecchi di psicologia pedagogica' (pp. 171-174), describes a new apparatus for demonstrating practically to children the formation of compound colors; also an improved apparatus for testing tactile sensibility. In his article on 'Principi vecchi e applicazioni nuove' (pp. 305-319) U. Pizzoli describes and figures new devices and instruments for psycho-physical research: A method for educating the color-sense in children; a 'double ergokinesiograph,' for the measurement of voluntary attention; a 'miokinesio-

scope,' for the study of voluntary movements of the arm in connection with writing, etc.; a new innocuous algesimeter; also a cabinet of psycho-physical apparatus (spirometrograph, miokinesioscope, esthesioscope, dinametrograph, algesimeter, double synkinesiometrograph, chronometer), so arranged that one mechanical movement and one source of electric energy can be used to keep them going. Another piece of psycho-physical apparatus, the 'bitemporal sphygmometric angiograph,' is described by Professor M. Patrizi, in his article 'Un angiografo bitemporale con annesso sfigmometro' (pp. 204-210).

Ida Faggiani's note, 'Intorno alla natura della bugia infantile' (pp. 262-266), treats of auto-suggestion and collective suggestion in relation to children's lies. The child who has begun to lie, knowing that he is lying, ends by being convinced that he has spoken the truth. With the child the power of inhibition has not kept pace with the power of observation and the ability to associate and combine in the mind the most improbable things. It can and does often lie even when the facts are plain. In Dr. A. Morselli's 'La mensogna nell' estetica come indice d'infantilismo psichico' (pp. 401-436) the author, after giving details of the cases of five female hystericals, discusses lying in hysteric persons as an index of psychic infantilism. He points out a 'real resemblance' in the genesis and the course of hysterical and infantile simulation. Lying and simulation have behind them an ancestry of defence.

In his 'Note antropologiche e psicologiche in rapporto alla intelligenza e al contegno dell' alunno in classe' (pp. 71-85) G. Gianolio, of the Institute of Legal Medicine of the University of Rome, gives results of anthropological and psychological examination of 54 boys (normal 18, unruly 18, backward 18) between the ages of 8 and 13 and of homogeneous social condition, from the elementary schools of Rome. The normals were found to have 1.33 anomalies of head and face per individual, the unruly 4.83, the backward 6.27. As to touch, the normals and the unruly differed little, the backward being much below both; in general sensitiveness the unruly and backward were close together and much inferior to the normals; in sensitiveness to pain the superiority of the normals over the others is again marked. In affectivity and morality the difference between the normals and the unruly is great, but the differences in intelligence are not marked.

C. Piccinini, in a brief essay, 'Sul valore degli errori cromatici nell' infanzia' (*Archivio per l'Antropologia*, Vol. XXXVII., pp. 41-45), gives the results of the investigation of color-errors in 80 children, finding that, contrary to the conclusions of Garbini, mistakes of

this sort in children of 6 and 7 years are due in large part to lack of attention, and do not therefore demonstrate any principle.

In the *Atti della Società Romana di Antropologia* (vols. 13-14, 1907-1908) has appeared the following: R. Livi's 'Sulla causa del destrismo e del mancinismo' (vol. 14, pp. 91-94), in which he concludes that the fundamental cause of the predisposition to righthandedness and lefthandedness is 'uterine position,' this predisposition may, however, be counterbalanced by various minor causes, so that one born righthanded may become lefthanded and *vice versa*.

In the first four numbers (vol. II., 1908-1909) of the *Rivista Pedagogica* (Rome), the organ of the National Association for Pedagogical Studies, edited by Professor Luigi Credaro, of the University of Rome, are a number of valuable articles. In his 'Pel concetto di Pedagogia' (pp. 1-15) Professor N. Fornelli, of the University of Naples, finds the object of pedagogy in 'the educable man, or man in evolution, in full, in complete, in total evolution,' evolving, growing man; development, growth, improvement from the child to the adult. This is the field also of other sciences. But pedagogy differs from them in its essentially *practical* character. In some respects this practicality resembles that of medicine, in others that of the political sciences, *e. g.*, in its power and capacity to modify, to vary and to adapt itself to the circumstances of the time, place and person. Q. Tonini, of the Male Normal School in Pisa, treats in his article on 'I Discoli' (pp. 16-37, 189-211) of idiocy, juvenile crime, classification of defectives and abnormals, reformatories, the place of the school in the education of abnormals, etc. The author believes that various kinds of auxiliary and subsidiary classes and institutions ought to arise for the benefit of defectives and abnormal children. And the normal school ought to be broadened and deepened until it becomes a 'universal pedagogical clinic,' as Fiebig maintains, where may be studied concretely all or almost all the phenomena of normality and abnormality.

In 'I metodi di Cohn per la rapida determinazione in massa della acutezza visiva e del senso dei colori negli scolari' (pp. 79-87) Dr. A. Graziani gives the results of experiments on visual acuity and color-vision carried out in 1907-1908 upon 1,460 pupils in the elementary schools of Padua. About 5 per cent. of all children examined were affected by dischromatopsia, the colors most frequently confused being red with green and blue with violet. The average visual acuity for boys was $14.50 \div 6$, for girls $15.20 \div 6$, or about double that fixed by Cohn as the normal limit value; the percentages

of myopia were for boys 10.4 per cent., girls 14.2 per cent. The lower grades in the schools show a smaller visual acuity than the higher, but this inferiority is probably due to difficulties incurred by the smaller children in the *modi operandi*. Myopia increases from the lower classes to the higher. In grade IV. the Cohn method gave a percentage of 11 per cent. of myopia for boys and 16 for girls; tests by another method carried out some time previously by Dr. Grazia gave 14 per cent. and 20 per cent. respectively, about the same relative proportion.

In a brief article, 'La scuola mista è veramente dannosa?' (pp. 212-217), Signora Laura Ciulli-Paratore, of the Normal School in Chieti, approves of co-education from having 'experimentally confirmed its didactic and moral advantages, which far outweigh the petty inconveniences and difficulties it presents.' Under the title 'Problemi di pedagogia sessuale' (pp. 398-399) Professor Pio Foa discusses the question of education in matters of sex, holding that such education ought to begin 'when the child asks its mother where babies come from.' The facts of the vegetable and animal worlds should be used in the schools as far as possible to teach the truth about sex-phenomena, when such instruction can be safely carried on.

Among Italian books and pamphlets belonging more or less within the sphere of education and child-study the following may be briefly mentioned: A. Marchesini's *La parola nella vita e nella scuola* (1909), in which are emphasized the individual and social rôle of language and its importance as the prime pedagogical tool; Dr. T. M. Elvira's *Il disegno nella educazione* (Pavia, 1908), which deals with drawing as one of the notable means of individual expression and its place in the curriculum; G. Cesca's well-written *Religiosità e pedagogia moderna* (Messina, 1909), which T. Armani thinks will be the 'best work of the year in general pedagogy.' The new liberal pedagogy is 'the direct product of ethical religiosity which compels recognition of and respect for the rights of free and autonomous individuality'; the prime foundation of education lies in religion, but liberal religion, not servile theology. The new pedagogy is not aristocratic, seeking to mechanize the people, but liberal, having in view the awaking of the altruistic feelings and the formation of the man. It substitutes the cult of duty for that of pleasure, and recognizes as absolutely necessary personal autonomy and the rights of reason.

These works also may be cited here: C. Gavazzi's *L'arte nell'educazione popolare* (Firenze, 1908); E. Altavilla's *I fattori della delinquenza colposa* (Napoli, 1907); P. Vecchia's *La funzione sociale della scuola* (Lanciano, 1908).

SPANISH.

In the *Archivos de Pedagogia y ciencias afines* (Vol. IV., Nos. 10-12, March-Sept., 1908), the organ of the Pedagogical Section of the Faculty of Juridical and Social Sciences of the National University of La Plata, appear several articles deserving notice. Valeriana Astelarra's 'La visión' (pp. 19-58) gives the results of experiments on the eye-sight of 20 pupils (female) in the Normal School of La Plata. To this article are appended (pp. 49-58) the figures of the dynamometric tests (right and left hands) of 22 pupils in the Colegio Nacional de Señoritas, La Plata, with statement of day and hour of experiment, barometric pressure, temperature, force of wind, etc. In an article on 'Estesiometria tactil' (pp. 59-68) Paulina Stigliano publishes the record of esthesiometrical experiments (forearm, palm and back of hand, forehead, tips of fingers, left hand first and then right) on 22 pupils (female) of the Liceo de Señoritas, La Plata. The order of acuity of touch-sensation is finger-tips, palm, back of hand, forehead, forearm. Tactile acuity seems to be greater from left to right and from below up. The fingers of the left hand seem more sensitive than those of the right. In her article on 'La audición' (pp. 204-226) Isabel J. Chamans gives the results of experiments made (keenness of hearing, sensitiveness for harmony, tone, etc.) on 23 pupils (girls of 15 years) in the same Liceo, — four tests being held. No cases of obtusity or serious anomalies were met with. Evangelina Ayarragaray's article on 'La visión' (pp. 227-252) gives details of the examination of the visual acuity, color-sense and sensitiveness to light of 20 pupils (girls) of 15 years of age in the same institution. The positiveness of sensation for the left eye is greater than for the right, — this may be due to the fact that the right eye being used more has lost some of its power through excessive work. The order of positiveness with respect to the colors is red, yellow, blue, green. The colors most confused are blue with green and yellow, yellow with green, orange and rose, green with blue, yellow and violet. In general the eye appreciates more the qualities than the intensities of luminous sensations.

The article, 'Musculos. Fuerza muscular. Dinamometría' (pp. 253-270) by Celia G. Bergez gives the results of dynamometrical experiments (right and left hands) on 22 pupils (girls). Strong emotions seem to diminish the strength of pressure (notably in one case). Stature and weight appear to exert some influence, the highest muscular energy corresponding to the greatest height and weight. The pupils concerned were the same as in the experiments of Miss

Astelarra. The figures for height and weight of 19 of the subjects are given. The article of Professor Martín Navarro, 'La Paidología,' (pp. 236-353) gives a general sketch of the history of child-study.

R. Senet's article on 'El niño de esta época' (pp. 386-399) discusses the physical and mental precocity of Argentinian children of today, the effect of the predominance of women as teachers and related topics. He seems to believe that 'women cannot educate men,'—she who does not possess a male *psyche* cannot form one. In 1882 the teachers of the Province of Buenos Aires were 48 per cent. men and 52 per cent. women; in 1907 the figures were 18 per cent. and 82 per cent. The *belicoso* period in man has not disappeared by reason of this great preponderance of female instruction; it only appears later.

In *El Monitor de la Educación Común* (Vol. 28, 2d S., No. 47) Professor V. Mercante publishes an article on 'La audición coloreada,' in which, after a general discussion, he gives the results of his investigations on 344 girls and 362 boys between the ages of 9 and 22 years. Among the conclusions reached are these: Colored hearing is a relatively common phenomenon, being neither exceptional nor pathological. Words and sounds evoke colors more easily in girls, but generally the same dominant color in both sexes. The verbochromatic gradations according to age are more apparent in the abstract or meaningless terms than in the vowels and concrete terms.

Dr. J. Lahille's brief monograph (41 pp.) on *Signos físicos y medición de la inteligencia* (Buenos Aires, 1908) criticizes the attempt to establish relationship between physical measurements of the skull and mental aptitudes. To be sure, there exists some slight correlation between the dimensions of the head and intelligence, but it is quite another thing to deduce the *psyche* of an individual from his cephalic dimensions.

A notable feature of the year is the appearance of *El alma del Niño* (Madrid, 1908), the first translation into Spanish of Preyer's classic work, *Die Seele des Kindes*.

DUTCH.

The first part (pp. 1-90) of the sixth year (1906-7) of the *Paedologisch Jaarboek* of Dr. M. C. Schuyten is entirely devoted to the editor's monograph 'Onderzoekingen over Esthesiometrische Variatie bij Kinderen gedurende het schooljaar.' The second part contains 'Over Geheugenvariatie bij Schoolkinderen' (pp. 91-128), 'De Oppervlakte van het Geschrift' (pp. 129-158), and 'Over Vóór-en Namiddagonderwijs' (pp. 159-207) all by Dr. Schuyten. He is

also the author of the contents of the first part of the seventh year. Of nearly all these studies, treating of esthesiometrical variations in children during the school year, variation in memory, morning and afternoon instruction, consumption of bread and the annual curve of vital energy, right and left leggedness, etc., the author himself furnishes good abstracts in French making it unnecessary to do more than refer to them here.

HUNGARIAN.

An interesting product of child-study activity in Hungary is L. Nagy's *A gyermek érdeklődésének lélektana* (Budapest, 1908, pp. 172), 'The Psychology of the Child's Interest.' Its five chapters treat of the theory of interest, the development of interest, the motives of interest, the interest of the child and instruction, the individuality of the child and interest. Of American writers and contributors to the literature of child study the author cites Burk, Crosswell, Earl Barnes, Miss Shinn, Baldwin, *et al.*

A. F. CHAMBERLAIN.

CLARK UNIVERSITY.

PSYCHOLOGICAL LITERATURE.

CHILD PSYCHOLOGY.

Mind in the Making. EDGAR JAMES SWIFT. New York, Charles Scribner's Sons, pp. 329.

While Professor Swift's *Mind in the Making* like most other genetic treatises tends at times to underestimate the value and the potency of non-subjective factors in the educational process, it on the whole constitutes one of the most stimulating books on education recently published. The first chapter demonstrates from the apparent dullness of many celebrities during school life that failure to master the conventional educational content in the customary way can never indicate more than the absence of 'a certain specialized ability' and may occasionally indicate the presence of exceptional possibilities. "Childhood is the period of racial inheritance. For this reason every young child must be regarded as a possible genius. The function of the educator then, while elaborating to the fullest extent the basal racial characteristics, is to enter so completely into the lives in his charge that he may discover each new variation at its emergence" (p. 32). Here and in the final chapter on the 'Reconstruction of Nature' the mutation theory of DeVries is given, so far as I know, for the first time, its educational application in formal treatise.

Tendencies commonly called criminal, being also racial, are common to the whole mass of children. Every young child is therefore not only a possible genius but a possible criminal. "The remedy is not so much Froebel's substitution of one process for another, as it is the substitution of a new purpose for the old one in the same process. It is the recognition of the right of race instincts to exist" (p. 93). For this, as for the discovery of variations and the recognition and amelioration of the nervous irritants and physical defects, impressively exemplified in chapters III. to V., the expert education of the mass of teachers becomes necessary (pp. 32, 143, 168). If teachers are to become thus expert, 'the effective scientific method must replace the expensive method of following unorganized experience.' While the experiments and investigations cited in chapters VI. and VIII. are highly suggestive, I cannot but believe that it is the fragmentary and unsystematic nature of such educational research rather than the 'School-

mastering Education,' described in chapter IX., that is responsible for the delay in educational reform. It is not a too exacting supervision, but a non-expert supervision; not the feeling on the part of teachers that inherited schoolroom methods (p. 299) are 'a part of themselves' (p. 294), but the absence of methods universally valid that prevents them from performing a function that must be in part, it is true, individualistic, but on that account none the less dependent upon methods effective with the mass of pupils.

Against the scientific determination of such methods, the extreme of individualism, which insists upon each teacher's following the plan of work best suited to her personality and teaching each child in a different fashion, has been by no means the least formidable obstacle.

A. DUNCAN YOCUM.

UNIVERSITY OF PENNSYLVANIA.

The Child's Mind; Its Growth and Education. W. E. URWICK.
London, Edward Arnold; New York, Longmans, Green & Co.,
1907. Pp. xi + 269.

Most English books on the theory of education and mental development have been written from the view-point of philosophy, or formal logic, or Herbartian or Froebelian psychology. But the book before us abandons almost entirely the philosophical attitude and method, and attacks the subject in the spirit of contemporary science. It is apparent that the author is in sympathy with the conceptions of human nature suggested by the general principles of evolution; and he is familiar with the theory of mental function given us by present-day biological psychology. His point of view, and most of his conclusions, are quite in harmony with the prevailing tendencies among educationists on this side of the Atlantic. American educators are coming more and more largely to place their hopes for a workable theory of educational aims, values, and processes in the adoption of the methods of the naturalist in treating education. They have become profoundly distrustful of the philosophical and logical methods in discussing problems of either educational theory or practice; and Mr. Urwick seems also to have lost faith in these methods.

The general character of the book may be inferred from the fact that it conceives of education as the process of equipping the individual with means so that he may the more effectively adjust himself to his environments. Subjects of study and methods of teaching are evaluated in view of their service in aiding the pupil to attain the supreme end of life — adaptation. The child is taken from the beginning, and

it is shown how he learns to adapt himself; what mental processes make their appearance as the sphere of adjustment enlarges, and what is the *raison d'être* of any process. Mind is conceived of as the instrument for attaining adjustment, and not as an independent entity, to be analyzed and described as though it were composed of parts or organs that had meaning aside from their function in securing adaptation. The book is thus a plain, simple, and rather general statement of some of the principles of mental development, and of education viewed from the modern standpoint. It is not suited to advance educational theory so much as to popularize what is now generally accepted by contemporary educationists of the evolutionary persuasion. It should be added that to some extent it lacks *concreteness* and *vividness*; it impresses the reviewer as having been written by one who aimed at system and logical consistency in his treatment rather than a direct, first-hand description of child-life as it is displayed in the ordinary situations of daily life.

M. V. O'S.

Notes on the Development of a Child. The Development of the Senses in the First Three Years of Childhood, Vol. II., 1908. University of California Publications in Education, Vol. 4. MILICENT WASHBURN SHINN. Berkeley, University Press. Pp. 258.

With respect to the sources of the data reported in Volume II. of the *Notes*, and the method of obtaining them, the author writes: "My original data for the following study have come almost entirely from a journal of the development of a single child (the author's niece). . . . But in the later examination of the data I have supplemented them with the observations of others. My record was but little guided by any previously formulated theory, or by the effort to solve any previously formulated problem. . . . In the main, I aimed only at a scrupulously objective record of the facts of development, as they appeared quite spontaneously."

The data thus collected were classified and published as Volume I. of the *Notes* which may be described as a rich store-house of accurate, minute observations relating to the sensory and motor development during the period of infancy.

The purpose of Volume II. is to summarize and interpret the previously published observations relating to the development of the senses. By 'interpretation' the author means tracing 'the development of the senses from stage to stage, with reference to the genetic relationship of these stages, and the process by which each unfolds from the pre-

ceding,' the search for the general law of this unfolding, the consideration of 'the bearing of any results thus reached on current problems of psychology,' and finally, the author formulates, as corollaries, the pedagogical suggestions of the study.

Of the two methods which have been employed in the study of infancy — the comparative and the biographical — Dr. Shinn regards the latter 'thoroughly checked and corrected by comparison' as the true one for the study of children of the earliest period.

Concerning the difficulty of finding a satisfactory principle of classification for the data of child development the author writes: "The analytic headings dismember every incident we would report, for the actual development we are tracing is essentially synthetic, yet we must analyze, in order to interpret." All in all, a modification of the Spencerian formula for the process of evolution supplies a satisfactory guiding principle — viz., child development is 'a progressive movement consisting of the integration of simpler activities into more complex, and the differentiation of specialized ones, out of generalized.'

The principal conclusions of Part I., Vol. II. (Sensibility of the Newborn) are: "The child is, at birth, capable of receiving impressions in every department of sense (unless for a short delay in the case of hearing). . . . These sensations of the newborn are very limited and feeble, and seem to be simple and detached experiences, . . . are justly to be regarded as *pure* sensations in which there is no consciousness of space, of externality or internality, of surrounding objects, or of self" (pp. 12, 47).

Part II., The Synthesis of Sense-Experience (the visual-motor association series, the tactile-motor association series, synthesis of the visual-motor and tactile-motor association series, auditory associations, associations of the minor special senses, feeling of a bodily self). The author's principle of classification is used with great effectiveness in this part in organizing and interpreting the wealth of detailed observations which she had previously reported.

Part III. traces the development in Discrimination and Interpretation in the different sense departments — sight, hearing, touch, etc. The treatment of sight, particularly the section on 'color-vision,' is worthy of special mention.

Two general conclusions of the work may be noted: (1) The development of the senses does not follow the phylogenetic parallel — though some specific phases of the development show such correspondence, (2) the psychic life of the child centers from the first about the higher senses, especially sight, not the lower.

OHIO STATE UNIVERSITY.

DAVID R. MAJOR.

The Boy Problem. WILLIAM FORBUSH. Boston, Pilgrim Press, 1907. Pp. 219.

This book in its original form passed through five editions; the sixth edition is rewritten and considerably enlarged. A few years ago a book of this title would not attract much attention outside of educational circles; but we have entered an era when the boy problem is of interest not only to parents and teachers, but to the public as well. Mr. Forbush is prepared to write on this subject, for he has studied it probably as carefully as any one, alike in its theoretical and in its practical aspects. As a result, his book impresses one as being sound, sensible, and wholesome. Unfortunately most writers on this topic allow their feelings to dominate their judgment; and they do not follow effective methods in determining what a boy's dominant impulses are at different stages in his development. One could sum up all such persons say in the general exhortation, "Let us love our boys, make them happy, and do them good." Now this is doubtless of some service in the practical training of boys, but yet it does not put us forward in education very far or very rapidly, since our chief difficulty lies in the fact that we do not know in much detail what is good for boys, and we seem quite unable often to make them contented with our programs. We strive, with the best of motives, to make them happy along the lines of our own feelings; but somehow the boys do not respond to our advances as they ought.

The chief virtue of the book before us is that the author has something of the attitude of the naturalist in dealing with boys. He is familiar with contemporary biological and psychological theory, and this has been of service to him in observing and interpreting the tendencies of boys under varying conditions in daily life. His method of handling them is based on the conception that they are more or less primitive in their interests, that they love adventure and daring, that they must be active, that they tend to form gangs and prey upon society; but yet with all this they have tendencies which, if recognized in their training and effectively appealed to, will in time bring them into harmony with the customs and institutions of civilized society.

Mr. Forbush lays out a thoroughly dynamic régime for the treatment of boys, which, in the opinion of the present writer, is our chief need in contemporary American society. He shows how we ought to organize and conduct the school, the church, and the home so as to reach boys on the plane of their crude masculine impulses. He condemns the typical Sunday-school and similar agencies for helping boys because they are too largely in charge of good-hearted, but entirely

incompetent persons. This book should give the reader a better understanding of boy nature, and should suggest to him practical means of controlling and guiding that nature in the most effective way, and with the coöperation of the boy himself.

The Training of the Human Plant. LUTHER BURBANK. New York, The Century Co., 1907.

Achievements in the development of new species of flowers, grains, fruit and the like impress most people as bordering on the miraculous. Until recently Mr. Burbank's attention has been devoted wholly to plants, but now we have from his pen this book of one hundred pages presenting his views on the training of the child. He has manifested such extraordinary power in the modification and training of plant life that one cannot fail to be interested in his views on the education of children.

First he discusses the mingling of races in our own country, and he reaches the conclusion that we may produce a stronger race than has yet appeared in the history of the world. But when the crossing of strains has been accomplished the most is yet to be done. Beyond this is the care, the nurture of the young. Animal life is influenced by all that environs it, and especially is this true of the child. Everything impresses him, and what most frequently acts upon him 'becomes constitutional and ingrained.' The author is in a way in sympathy with Rousseau in that he would not let a boy or girl see the inside of a schoolhouse before ten years of age. The country is the only place in which to rear a child. Of course, if children must live in the city, the school may prove the lesser of two evils.

In cultivating his plants, the author says he must work with infinite patience; but in the end he accomplishes his aim. A child must be reared by those who love him. "A man who hates plants, or is neglectful of them, or who has other interests beyond them, could no more be a successful plant cultivator than he could turn back the tides of the ocean with his finger tips. The thing is utterly impossible." This sounds like Froebel, Pestalozzi, Dickens, or Parker.

Perhaps one of the most interesting chapters of this book is entitled 'Be Honest with the Child.' The author has found that he must be absolutely truthful with nature in rearing his plants, so he thinks that one who is dishonest with a child, whether his own or someone else's, blasts that child's life. We must teach the child self-respect, too, and we must everlastingly repeat the good impressions which we make upon him so that they may become fixed in his very

nature. We must keep fear out of his life, whether religious or otherwise. We must put courage before children, and they will absorb it as the 'plant absorbs the sunshine and the dew.'

The chapters which are devoted to a discussion of the physical needs of the child — sunshine, good air, and nourishing food — are as sane and as practical for the teacher as for the parent. The same may be said of the chapters on growth, environment, heredity and the like.

Introduction to Child Study. W. B. DRUMMOND. London, Arnold; New York, Longmans, Green & Co., 1907. Pp. 348.

In this book Dr. Drummond has summarized the work that has been done up to date in the study of the child in respect to his physical, intellectual, moral, and religious development. It is designed particularly for teachers and parents in England, where child psychology has not progressed as far as it has with us. This accounts for the space which the author has given to a discussion of cautions to be observed in child study, and practicable methods of conducting the work. When the subject was new with us considerable attention was given to these topics; but in this country we have grown to the point where we have ceased discussing formal questions of methods of work, and are devoting our energies to the solution of definite problems concerning child nature and the methods of treating it. Dr. Drummond's summary will be helpful to teachers who are unfamiliar with what has been done; but for those who have kept in touch with the work in this country nothing at all new will be found in this book.

M. V. O'S.

MENTAL DEVELOPMENT AND EDUCATION.

Growth and Education. JOHN MASON TYLER. Houghton, Mifflin & Co., 1907. Pp. 294.

To those who are used to looking upon education as a process of book study this volume will be either a shock or a revelation. Instead of discussing what the child is to learn and how he is to learn it as does the ordinary work on education the book treats as of paramount importance the amount and kind of growth that is taking place at each stage of development. Instead of treating of intellectual and practical needs of children and the logical relations of subjects of study, the author directs his attention to the physiological processes of growth, manifesting the utmost faith in nature's methods however indirect and illogical they may be.

After discussing the present needs of education and considering

man in the light of evolution he refers to the hints given by embryology, then discusses the growth of the body as a whole and its different parts. Following this are applications of the principles discovered to mortality, morbidity, and to the various periods of development before and after entering school, with special discussions of physical and manual training. A final chapter summarizes conclusions, and is followed by an appendix containing tables of growth, and rather an extensive bibliography.

The style of the book is popular, picturesque and forceful, as everyone would expect who has heard the author lecture. As an expression of a sensible man's opinions on educational questions as viewed from the standpoint of a biologist, the book must be regarded as a very important contribution to educational literature. Its wide circulation will serve to counteract the pernicious influence of much old-time theory and practice. If, however, the book were supposed to embody the facts and principles of education as determined by the facts and principles of growth and development it would be very unsatisfactory and misleading. The author has evidently made himself acquainted with about all the facts of growth that have been scientifically determined, and he has probably done all that anyone could do in the way of interpreting those facts and indicating their applications to education; but anyone who looks at the matter from a strictly scientific point of view will at once realize that it is utterly impossible to arrange a course of study or determine the methods of teaching from the facts of growth that are now known. A word of caution to the reader is perhaps needed lest he accept Professor Tyler's personal opinions regarding education, as truths already scientifically established by the facts of growth.

E. A. KIRKPATRICK.

STATE NORMAL SCHOOL,
FITCHBURG, MASS.

Social Education. COLIN A. SCOTT. Boston, Ginn and Company, 1908. Pp. v + 300.

This work very modestly claims for itself only the presentation of 'a point of view or method of thinking rather than a completed system of thought.' It comprises records and discussions of experiences with school children, but does not attempt a scientific proof of any theory. When the reader has finished the volume, however, he will find the 'social' point of view to be pretty thoroughly established in the conviction of the author as the only way open for escape from the serious

and radical defects of the school operating under the historically consecrated methods or points of view. The book is timely; and inasmuch as it shows what is possible in school exercises, it goes far in offering suggestions towards the adjustment of the teacher to the social opportunities and needs of pupils in acquiring the typical knowledges, skills, and ideals with which the educative institution is obligated to furnish them.

The author begins with an analysis of the social as the prime feature of human life, and advances the view that the school is not only established by society but is constantly to be regarded as 'an embryonic community.' The twelve chapters easily group themselves into four modes of considering the general problem of filling the 'gap between the school and life.' It is first shown that the school is in need of a thoroughgoing social indictment. "The particular things that are done in the school do not cultivate even a working majority of the habits of action which are used in the world at large" (p. 15). This state of affairs would seem to be due to the over-emphasis in the past of an inadequate individual psychology (p. 3). It can be remedied by inaugurating 'definite social changes in the brains of its members' (p. 9). This appeal to physiological theory becomes even more unfortunate when it is led to speak of 'the social regions of the brain, the language centers' (p. 243) — as though it were possible to distinguish and disregard the purely individual centers as such, or to maintain that there are no individual sensory or motor conditions of sociality. When the author comes to state the import of the social educationally as meaning 'to get the child to feel that he is causing something' in which others share and especially as a member of a self-organizing group of children (pp. 21, 35, 216), he returns to a ground of common understanding and offers his suggestive point of view.

The second group of chapters is devoted to a sketch and criticism of the three leading attempts to make the school socially effective. One of the best features of the book is the interpretation it gives to the school at Abbotsholme, England, the George Junior Republic of Freeville, New York, and the recent experimental school at the University of Chicago, familiarly known as the Dewey School. In each of these there are found 'elements of a high degree of social value and an approximate solution of the problem of educative social organization' (p. 102).

The limitations and inadequacies of these notable experiments provide the way for the third group of chapters ('Self-organized group work,' 'Reasoning and the teaching of arithmetic and science from

the societary standpoint,' 'Reading, language and literature'), which constitute the chief part of the work. Here the author states his special message most clearly and convincingly. By a description of 'cases' of groups of children voluntarily organizing for the satisfaction of particular interests and the solution of special problems, which were tried in various schools in Illinois, Colorado and Massachusetts, it is shown how 'social education' can be developed in 'the average grade school of the times.' Pupil coöperation is to be introduced to a limited extent only, and does not threaten a complete revolution of the school procedure or the elimination of the teacher. It is impossible to summarize here the narratives of these school experiences, which should be read in detail, both by teacher and psychologist. In this part of the work the author very properly forgets the rather extreme consequences of his theoretical discussions which would seem in part to demand that the teacher and the course of study should disappear, and education be turned over to the self-organizing instincts of pupils.

Further application of the social point of view in school work is theoretically presented in the fourth and last group of chapters ('Manual arts: industrial and constructive work,' 'Fine art,' 'The education of the conscience'). The philosophy underlying the general treatment is pragmatism, which seems to be accepted without either defense or apology except that which inheres in the generic demand that education should be serviceable and full of immediate satisfactions (pp. 173, 202, 247, 254). The strictures above noted do not blind us to the special value of the work, which taken as a whole, makes a contribution to the school theory and practice of to-day. The author writes with an attractive and compelling style and sustains the interest to the end.

E. F. BUCHNER.

JOHNS HOPKINS UNIVERSITY.

Linguistic Development and Education. M. V. O'SHEA. New York, Macmillan, 1907. Pp. xviii + 346.

This book will be welcomed by all who are interested in the problem of language learning from the beginning of speech to the completion of the university course. To those, however, who are interested only in the narrower problem of the science of language development or in the rules of procedure to be followed in teaching, the book will not be satisfactory. The book contains little that is radically new, but it brings together the facts and principles of physiology, psychology, child study and pedagogy in such a way as to show their

bearing upon every stage of language learning more completely than any other book known to the writer.

The author is familiar with the literature concerning the development of language in children, and with scientific studies of the processes of reading and is acquainted at first hand with these processes as they are carried on at home and at school. One therefore feels that he is speaking not from a theoretical point of view but from that of the experienced parent and teacher.

Part I. treats of the 'Non-reflective Processes in Linguistic Development' and includes chapters on prelinguistic expression, early reaction upon conventional language, parts of speech in early linguistic activity, inflection and word order, and development of meaning for verbal symbols. Part II. on 'Reflective Processes in Linguistic Development' treats of acquisition of word ideas in reading, acquisition of graphic words, development of meaning for word ideas in reading, development of efficiency in oral expression, processes in graphic expression, development of efficiency in graphic composition, and acquisition of a foreign tongue. Each chapter is followed by a summary and at the close of the book is a very good bibliography and index.

Space will not admit of detailed exposition of the many points discussed by the writer. The strong feature of the book is that it shows clearly language learning as a process of habit formation. The author also recognizes the complexity of the processes involved in the understanding and use of language and the necessity of these processes being properly coördinated. All teachers of language from the primary grade to the university should read this book and thus be made to realize that their business is not merely to teach facts of language but to assist in a process of continuous development of language habits.

E. A. KIRKPATRICK.

STATE NORMAL SCHOOL,
FITCHBURG, MASS.

EDUCATIONAL THEORY.

Principles of Secondary Education. Vol. II. Processes of Instruction. CHARLES DE GARMO. New York, Macmillan, 1908.
Pp. xi + 200.

Since the universities are generally coming to recognize the need of professional training for secondary teachers, and to hold themselves responsible for it, a series like that of Professor De Garmo is a decided contribution. It may well serve as a groundwork for the embryo

teacher who is considering the 'principles of secondary education' for the first time. It should, however, be regarded only as the means of opening the subject, and should be supplemented by considerable outside reading, if the significance of the principles laid down is to be realized. The work unfortunately lacks a bibliography on each topic, although the references to special works are more numerous in this volume than the first, and the discussions suggested might, in the hands of a skillful teacher, be made to lead to extensive reading. In fact, it may well be that a syllabus and outline somewhat like that of Professor Strayer and coöperating specialists on elementary education would be a better way of presenting this subject than a series of books. Such a treatment would seem to favor the processes of induction, application, and mental activity, which Dr. De Garmo regards as so essential.

The first volume of this series dealt with the studies and the formation of a curriculum; the sub-title of the present work is *Processes of Instruction*. The author approaches his theories inductively. He first describes the way in which the ordinary person and the scientist acquire and interpret their facts and solve their problems, and then shows how, after proper allowance for his educational status, the same methods will be most natural for the high-school student, and will preserve his interest and secure alertness and vividness. To this he appends a final chapter on current methods and pedagogical positions to verify his conclusions by an appeal to educational experience.

Professor De Garmo may be considered the dean of the newer and more scientific pedagogy in American institutions, and he has possibly produced a greater number of books on education, than any other one writer. Two rather polar faults appear to the present reviewer to occur to some extent in his works. Each may be attributed to his past experience. As a philosopher and former Herbartian, he has a tendency even in a practical work to lean toward abstractions and schemata; while, possibly as a result of habits long fixed by the classroom, his efforts to touch student life and interest tend toward the diffuse and irrelevant. Neither criticism lies seriously against the present work, but the first part, which is almost a treatise on logic, is as much evidence of the one propensity as the stories about the Swarthmore College skeleton and the bequest to the same institution are of the other. But the logic is at least modern in both the theoretical and practical parts of the work, and shows how far Professor De Garmo has broken with the Herbartian propaganda, while the illustrations cited are as stories delightful, and the style of the work is generally

attractive. On the whole, the book is well proportioned and gets at the problems of secondary instruction more specifically than any treatise yet published. The parts relating to the teaching of the old staples of the curriculum — languages and mathematics — are, as in the first volume, especially clear and suggestive, while those on the natural sciences are almost as strong.

FRANK PIERREPONT GRAVES.

OHIO STATE UNIVERSITY.

Principles of Intellectual Education. F. H. MATTHEWS. Cambridge, University Press; New York, Putnam, 1907. Pp. 138.

This book affords a good illustration of the English method of treating educational theory. The conclusions reached, however, seem somewhat in advance of many English books of this character. The doctrine of formal discipline is abandoned for the most part, though it is retained for the purpose of validating certain subjects of study, especially grammar. On p. 14 the author expresses his opinion to the effect that the acquisition of exactness in any one field does not insure exactness in other and different fields, and the principle, he claims, holds in daily life as in the schoolroom. But on p. 77 he makes a plea for the retention of grammar in the curriculum, because "it is a formal study of vast importance in strengthening the abstract power of the mind. It trains observation and thoughtful analysis; it leads on gradually to logic." It seems to the present reviewer that these latter propositions are in direct contrast to positions taken elsewhere in the book.

The author says that the aim of education should be the development of flexibility and exactness in mental function. The former quality gives one insight, originality, breadth of outlook, while the latter insures that we "lose as little effort as possible, always following the safest course to our goal — the correct interpretation of facts laid before us, the drawing of valid conclusions, the separation of the true from the false, the proper adaptation of means to ends" (p. 9). The book is devoted mainly to showing how we may develop these mental qualities in our pupils. The conclusions reached are in large part in accord with contemporary theory in our country.

The Educational Process. A. C. FLESHMAN. Philadelphia, Lipincott, 1908. Pp. 336.

As one goes through this book he can with difficulty convince himself that it has come from the pen of a contemporary American

writer. It reads more like a German book on philosophy, or like some of the books on education which were published in our country thirty or forty years ago when the philosophic spirit was dominant among the few educational writers of that period. The book has little in common with those written from the standpoint of modern educational or child psychology. The author seemingly does not think highly of the contributions which have been made by contemporary science to the whole problem of educational aims, values, and methods. His quotations are mainly from the classic philosophers, or from books on education which are for the most part not much read now in America. This is not to say that the point of view of this book is a profitless one; but it is not in accord with the trend in American education. The present reviewer thinks the book is suited only to those rare individuals who have a speculative and philosophical interest in problems of life and of education. The point involved here may be illustrated by a quotation taken at random (p. 301):

"The logical process traces the absolute intelligence in its movement to self-consciousness, separating itself from itself and returning to itself in order to know and understand itself. The cosmic process reveals the mind principle in nature and unfolds the process by which nature loses its identity and becomes spirit. The spiritual process explains how this estrangement is removed, how spirit identifies itself with itself and how it attains its formal essence, freedom. . . . The primal activity of spirit is to assert itself in contradistinction to the not-self, to separate itself from itself, and to return from this estrangement to itself, enriched and enlarged."

M. V. O'S.

Class Room Management. Its Principles and Technique. WILLIAM CHANDLER BAGLEY. New York, Macmillan, 1907. Pp. 322.

For certain purposes this is probably the best book on class room management that has been published. It is written by one who has had much experience in practical school work in various situations, and who is also well prepared by theoretical study to recognize the larger principles of psychology and pedagogy involved in detailed rules and devices. Part I. treats of routine factors of class room management, giving considerable space to the discussion of routine as related to habits of the individual, economy of energy, rules of the school, arrangement of program, attendance, hygienic conditions and discipline. Part II. treats of judgment in class room management,

discussing problems of attention, technique of class instruction, individual instruction, the testing of results, disposition of the teacher's time, and the teacher's relation to others.

In the appendix are some excellent suggestions for teachers and for those who are observing preparatory to teaching. References to standard educational literature are given at the close of each chapter.

The author has done his work well, describing what should be done and why so clearly that there seems to be little use for a teacher to supplement the text. Its greatest usefulness will therefore probably be found in teachers' reading circles and by teachers who are studying by themselves, and as a reference guide in all training schools for teachers.

Text-book of School and Class Management, Theory and Practice.

FELIX ARNOLD. New York, Macmillan, 1908. Pp. 409.

This volume in many respects may well be contrasted with the one by Bagley. In the latter book practice leads and theory explains and justifies, while in Arnold's theory leads and is related to practice chiefly by formal classifications.

The author has read widely both ancient and modern writers on sociology, ethics, psychology and education, but the rules of practice seem to have been derived in part at least from a type of school that is not the ideal of modern writers that he most freely quotes. The formal, systematic character of the book will be indicated by the chapter headings of Part I., 'Principal and Teacher: the Principal;' 'Coöperation between Principal and Teacher: Instruction;' 'Coöperation between Principal and Teacher: Discipline;' 'Coöperation between Principal and Teacher: Supervision.' Topics are usually introduced by a general definition, *e. g.*, the chapter on 'Coöperation between Principal and Teacher' has a formal definition and a half page quotation from Gidding's Sociology on the nature of coöperation. There are many good things said by the author and in quotations, but it seems to the reviewer that there are in the book many things that are obvious or inappropriate.

E. A. KIRKPATRICK.

STATE NORMAL SCHOOL,
FITCHBURG, MASS.

BOOKS RECEIVED FROM FEBRUARY 5 TO MARCH 5.

- The Behavior of Noddy and Sooty Terns.* J. B. WATSON. Washington, Carnegie Institution, 1909. [Undated. Pp. 187-255 of Publication No. 103.]
- Notes on the Development of a Child. II. The Development of the Senses in the First Three Years of Childhood.* M. W. SHINN. Berkeley, University of California Press, 1907. Pp. viii + 258.
- Arbeit und Rhythmus.* K. BUCHER. 4th revised ed. Leipzig and Berlin, Teubner, 1909. Pp. xi + 476.
- Les Névroses.* P. JANET. Paris, Flammarion, 1909. Pp. 397. 3 fr. 50.
- Logique et Mathématique. Essai historique et critique sur le nombre infini.* A. REYMOND. Saint-Blaise, Foyer Solidariste, 1908. Pp. 219. 5 fr.
- Anti-Pragmatisme: examen des droits respectifs de l'Aristocratie intellectuelle et de la Démocratie sociale.* A. SCHINZ. Paris, Alcan, 1909. Pp. 310. 5 fr.
- Philosophische Strömungen der Gegenwart.* L. STEIN. Stuttgart, Enke, 1908. Pp. xvi + 452.
- Practical Diatetics, with Reference to Diet and Disease.* A. F. PATTEE. Fifth ed. New York, the author, 1908. Pp. xvi + 312.

NOTES AND NEWS.

THE Sixth International Congress of Psychology will meet in Geneva, August 3-7, an informal gathering taking place on the evening of August 2. The program includes discussion of general and special topics, questions of standardization, demonstration of apparatus, and individual papers. The general topics to be discussed are feelings ('sentiments,' by Külpe and Sollier), subconsciousness (Desoix, Janet, Prince), measure of attention (Patrizi, Ziehen), religious psychology (Höfding, Leuba); the special topics are the psychopedagogical classification of backward scholars (Decroly, Ferrari, Heller, Witmer), methodology of pedagogical psychology (Ioteyko), tropisms (Bohn, F. Darwin, Jennings, Loeb), orientation at a distance

(Thauziès), perception of position and movement of our body and limbs (Bourdon). Under standardization will be included terminology, standard colors, enumeration of errors in testimony experiments, notation of age of children, mathematical determination of numerical results of experiments. A later program will give the list of individual papers. Applications for membership should be addressed to the secretary (Ed. Claparède, 11 Avenue de Champel, Geneva) and should be accompanied by money order for dues (20 fr.) to the treasurer (Lucien Cellérier, Montchoisy, Geneva). Professor Th. Flournoy is the president of the Congress.

PROFESSOR LIGHTNER WITMER, of the University of Pennsylvania, is giving this term a course of lectures on psychology to the fourth year students of the medical department.

PROFESSOR A. L. JONES, preceptor in philosophy at Princeton University, has been called to Columbia University, where he will be head of the new committee on admission of undergraduates.

DR. W. A. NAGEL, assistant professor of sense physiology at Berlin University, has been appointed full professor at Rostock University. He is succeeded at Berlin by Dr. H. Piper.

THE State University of Iowa celebrated the Darwin Centennial by two addresses at the assembly of all colleges. Professor C. C. Nutting spoke upon the personal traits of Darwin, and Professor T. H. MacBride upon his contributions to botany. The Baconian Club devoted its evening program to the memory of Darwin and addresses were made on his contributions to zoölogy, botany, and psychology by Professors G. L. Houser, B. F. Shimek, and C. E. Seashore respectively. — A series of lectures on Darwinism is being given at the University of Chicago, Professors Angell and Mead speaking for Psychology and Philosophy. — The American Philosophical Society of Philadelphia holds its annual meeting April 22-24, and three addresses in commemoration of Darwin will be delivered on the evening of the 23d, by Ambassador Bryce, Professor Goodale, of Harvard, and Professor Baldwin, of the Johns Hopkins.

WE record the death of Victor Egger, Professor of Philosophy at the Sorbonne, Paris, and that of President Carroll D. Wright, of Clark College, Mass.

DURING Professor Baldwin's temporary absence in Mexico MS. for the REVIEW may be sent to Professor J. B. Watson, Johns Hopkins University, Baltimore.